ITA 350 RG
Red/Green DMX laser with gobo effect

User manual

Any information and illustrations shown in this user manual are subject to change without further notice.

User manual version: 2.0 Creation date + author initials: 05-12-2013 RV Revision date + author initials: 18-02-2014 RV

Safety instructions

WARNING!

Always keep this device away from moisture and rain! Hazardous electrical shocks may occur!

WARNING!

Only connect this device to a matching power outlet. This device is intended to work on a specified AC currency. Connecting this device to power outlets with other voltages may result in permanent damage and possible hazardous situations, such as fire or electrical shocks!

WARNING!

Be careful with every operation of this device. Touching live wires inside and outside the unit may cause hazardous electrical shocks!

This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

Every person involved with the installation, operation and maintenance of this device has to:
- Be qualified
- Follow the instructions of this manual

- Make sure there is no damage caused by transport. If the device seems damaged from the outside, do not use it and contact your dealer for more information and consultation.
- To make sure the device maintains in perfect condition and for safe operation, it is necessary for the user to follow the instructions and warning notes of this user manual.
- Damage caused by improper use or modifications to the device are not covered by warranty.
- This device does not have any user-serviceable parts inside. Servicing of this device needs to be done by qualified technicians.

Important notes regarding safety and health:
- Never let the power cord come in contact with other cables. Handle the power cord and all connectors with the mains with caution.
- Never remove any warning or informative labels from the unit
- The ground contact always needs to be connected. Do not cover or remove the ground contact.
- Never leave cables lying around
- Do not open the device and do not modify any hard- or software of this unit.
- Do not insert this object into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the system on and off frequently as this will reduce the lifespan of the device.
- Do not drive the inputs of the fixture with a signal larger than required to work at full performance.
- Only use this device indoor, avoid contact with water, moist or other liquids. Do not place items filled with liquids on top of the unit.

- Avoid nearby flames or heat sources, do not place this device near flammable liquids, gas or flammable items.
- Always disconnect the device when it is not in use for a longer period or time, when servicing is needed or when the device needs cleaning.
- Only handle the power cord by its connectors. Never pull the cable to remove a connector from its socket, as this could lead to damage and electrical shocks.
- Always operate this device with a stable AC current.
- Always operate this device with the AC ground wire connected to the electrical system's ground.
- Never use other types of cables than specified in the manual, do not use defective or bad functioning cables. Contact your dealer when the included or required cables do not work properly with this device.
- When the device has been exposed to large temperature differences (for example, transport from outdoor to indoor), do not connect the device immediately. Do not activate the unit until it has reached room temperature, as moist might build up inside the unit, which may cause shortcuts and/or electrical shocks.

Guidelines and types of use:
- This device is intended to be used by professionals on stage, in theaters, clubs and other equal venues.
- This device is not suitable for children and always needs to be operated by an adult.
- Only use the device when the environment is suitable and will not cause any damage. Do not use the product in moist or dusty environments, or where long-term damage may occur such as:
    - indoor swimming pools where chlorine is used.
    - Beaches, where sand and salt are present.
    - Outdoor, without roof protection
    - Indoor areas where intense heat sources are present or where the temperature exceeds levels which are comfortable for humans.
- Only use the included power adapter and only connect the device to a suitable power outlet with the correct output voltage. Connecting the device to a power outlet with the wrong type of voltage or using the product with a wrong type of power supply may cause permanent damage to the device.
- Avoid shocks and collision during use and transport. Do not transport the device while in use. Avoid brute force during the installation and operation of this device.
- Familiarize yourself with the functions of the device before use. Do not allow operation of the device by unskilled or unqualified people.
- Use of the device in other ways than described in this user manual may cause damage and injury. Ayra does not take responsibility for any damage or injury caused by improper use.

Storage and transport:
- This device is intended for mobile use. When transported, use the original packaging of the product, or a fitting flightcase, preferably filled with foam.
- This device is not intended for permanent use. Operation breaks will ensure that the lifespan of the device remains unchanged.
- If the device is not used for a longer period of time, disconnect it from its power source and store it in its original packaging, or in a fitting flightcase.
- Store the device indoor, dry and do not expose the device to extreme temperature differences.

Housing:
- Inspect the housing of the device frequently. Severe dents, cracks and missing screws should be avoided at all costs. Do not use the device when the housing is not in optimal condition. Contact your dealer or a skilled technician when in doubt about the state of the device
- Check the fixture and screws for corrosion. Corrosion should not be present on the fixture. Contact your dealer or a skilled technician when corrosion is found on the fixture
- Every power or signal chassis/connector should be mounted tightly. Do not use the device when connectors are loose.
- Do not use the power cord when the cores are visible. Contact your dealer for a replacement if needed.
- Avoid the buildup of dust and dirt. Clean the exterior of the fixture every month with a dry or damp cloth. When using the device intensively, the cleaning frequency needs to be increased.

Fuses:
- The main fuse of this device is to be found on the rear of the device. In most cases, directly next to the power inlet.
- Only replace a fuse for a new one with the same type and rating! Do not use a fuse with a higher or lower

rating.
- Do not bridge the fuse with electrical wires, aluminum foil, as the fuse is used for protection against electrical shocks and short circuit.
- Always mount the fuse cover back to the fuse compartment.

Guidelines for laser devices

Laser diode guidelines:

WARNING!

This device emits powerful laser beams! Do not look directly in the laser beam to avoid possible permanent injury to eyes and skin! This is a class 3B laser product.

- This device is a professional show and entertainment laser product. The device emits laser beams with a wavelength spectrum between 400 and 700 nm.
- This laser device has a different type of light source than other lighting products. This device is equipped with powerful, concentrated laser beams which could cause serious injuries when used incorrectly. Laser beams are approximately 1000x more powerful than regular light bulbs. This is caused by the very tight projection angle of the laser diode, which is far more concentrated than a regular light source. The combined power of the laser diode is powerful enough to cause permanent visual loss and other injuries when used incorrectly.
- Harmful laser beams which may cause injury do not feel 'hot'. It is possible that laser beams which do not generate noticeable heat cause serious injury. In most cases, this is visual loss, caused by a laser diode because it is focussing on the retina, a sensitive part of the eye which is very sensitive to lighting. Concentrated laser beams might burn the retina, causing permanent visual loss.
- Do not aim this laser device directly into your audience. The minimum distance in height between the floor and the laser device should be more than 3 meters.
- A laser operator is required for the operation of this laser device. Never leave the laser device running unattended.
- The requirements for laser shows may vary from country to country and even from region to region. Contact your local authorities for more information regarding professional laser shows for indoor and outdoor applications.
- Never point the laser directly to reflective surfaces nearby, as this might scatter the laser beams throughout the room.

Optics guidelines:
- Never cover the beam output of the laser!
- Do not remove or replace the lens.
- Do not touch the lens with your fingers
- Only clean the lens with a non-aggressive solution or a damp cloth

Exterior guidelines:
- When used in a hanging position, the device always needs to be secured by using a safety cable. Attach the safety cable to the provided safety eye with the carabiner hook. A safety cable is not included in delivery and can be purchased separately.
- The device must be installed on a flat surface or hanging from a solid construction by using the included bracket. Never hold the machine in your hands during use!
- When using the device in a hanging position, always mount a G-clamp or half coupler to the bracket, or use bolts to install the bracket directly to a ceiling or beam.

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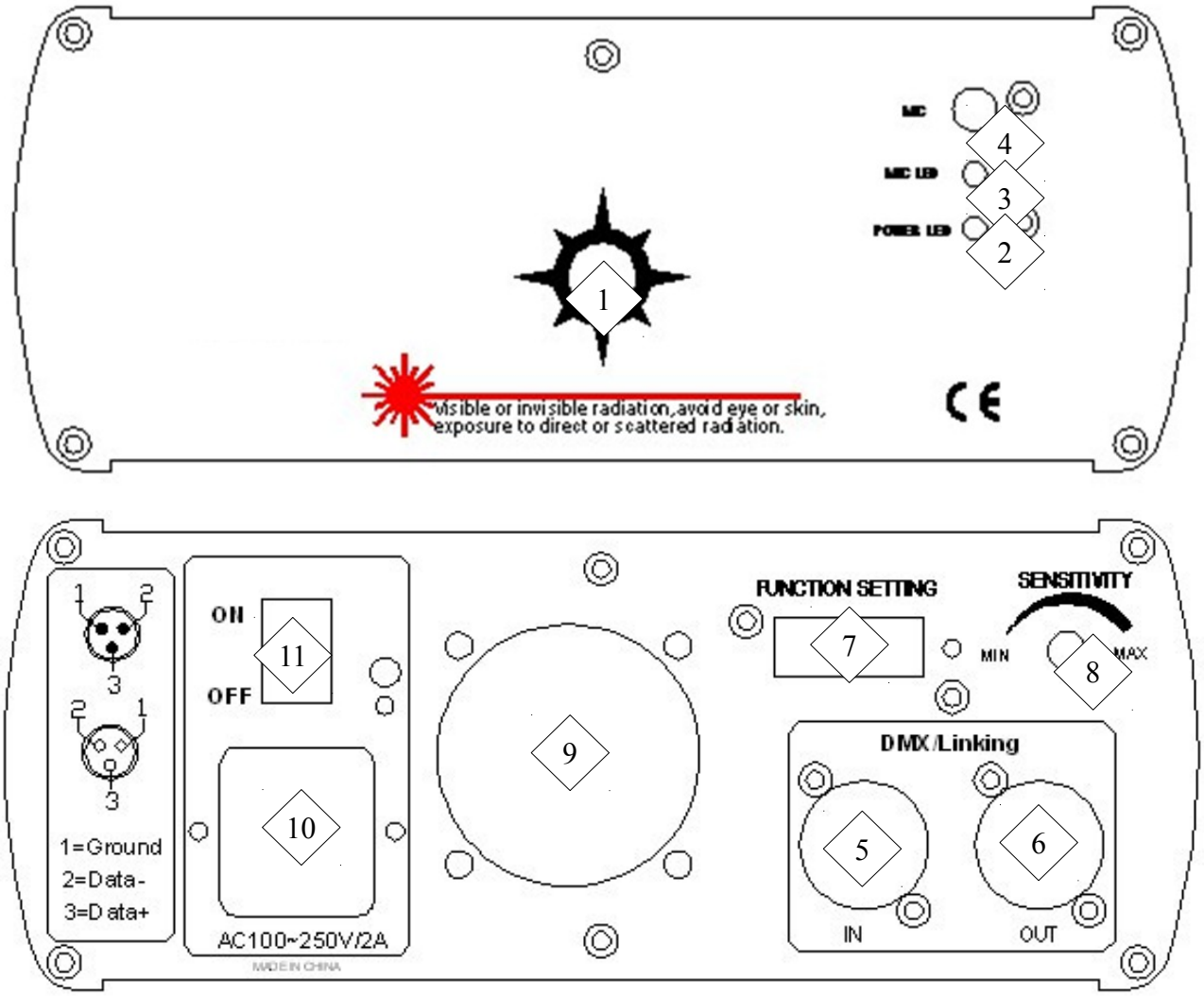
Box contents

Box contents
1x ITA 350RG laser device
1x user manual
1x IEC to Schuko power cable

Unit and accessory inspection
- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- If the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.

Device overview



1. Beam output
2. Power status LED-indicator (red)
3. Microphone sensitivity LED indicator (blue)
4. Built-in microphone (used for sound-active mode)
5. DMX input
6. DMX output
7. DMX dipswitch setting (also used for activation of auto/sound active mode
8. Microphone sensitivity knob (low-high)
9. Cooling fan
10. IEC power inlet
11. ON/OFF switch

Setting up the device
- When the power supply is connected, the unit will first calibrate the stepping motors of the unit. It is normal that this may cause any noise. When the calibration is done, the unit is ready to be used (in the selected DMX, automatic or music controlled mode)
- It is possible that the unit may shut off the beam projection when no music or sound is detected. This will avoid the projection of a solid, static beam, which may cause injury to eyesight.

Selecting a working mode
This laser device has three working modes, which are **automatic, music-controlled** and **DMX**. To select the right operating mode for your situation, use the dipswitch panel on the rear of the unit.

A DMX-dipswitch panel works with a binary character. It sends a 0 or 1 message to the electrical circuit. To select a working mode, pay close attention to the information scheduled below. Every DMX dipswitch stands for a certain value, which is on or off. The values are stated as below:

1 – 1
2 – 2
3 – 4
4 – 8
5 – 16
6 – 32
7 – 64
8 – 128
9 – 256
10 – mode switch (DMX ON/OFF)

To select the different working modes, use the dip switches on the rear of the unit. To activate the sound active and auto mode, use dipswitch 9 and 10.

Dipswitch 9 OFF, dipswitch 10 ON = Sound Active moderate
Dipswitch 9 ON, dipswitch 10 ON = Auto moderate
Dipswitch 9 OFF, dipswitch 10 OFF = DMX or slave mode

Other dipswitches can be switched on or off during the working mode selection.

Working mode explanation:

Sound active:
The unit uses its internal microphone to sense music (the beat of the music) and will change rotation, color and speed according to the beat of the music. The microphone is situated at the front of the laser device. On the rear of the laser, there is an adjustable microphone sensitivity knob.

Please note that the sound-activated mode will not function properly when the music source is not loud enough or when only high-pitched sounds are played. The laser device will shut off when there is no music detected, due to safety issues.

Auto:
The laser device will activate a pre-defined lasershow on a solid speed setting. The patterns change on a pre-defined speed

Slave mode:
It is possible to link several ITA 350RG fixtures for a synchronized lasershow, without the use of a DMX controller.
Connect your devices with standard XLR-XLR cables. The first device in the chain needs to be set to a basic function, such as sound-active or one of the auto shows.
Select the slave mode on all other connected device in the chain. You will notice that these devices will

mimic the actions of the first device.

DMX mode:
With an external DMX-controller (or DMX-software) it is possible to control every feature of the laser device. It is possible to adjust the built-in patterns and to add several effects, such as zoom-effects or pattern rotation.

NOTE: When the DMX-signal or master/slave signal is lost (due to a failure in the DMX-connection or any other reason), the laser will shut off the output due to safety issues. This prevents the projection of static images and/or patterns.

DMX operating mode

While in the DMX mode, it is possible to select the working mode of the laser. That way, you can either choose to use your own programmed presets of your DMX controller, or to activate the music activated/automatic working mode of the laser to have a fully-automatic lasershow. Depending on the starting address you selected earlier, the laser responds to the following commands. In this example, we use DMX starting address 1. When you use a different DMX-starting value, for example 29, the unit will respond from channel 29, 30, 31.. and so on.

For more information about DMX, consult the manual of your DMX controller or software.

Channel	Function	Value	Description
1	Mode	0-49	Close, laser off
		50-99	Sound-active
		100-149	Auto mode
		150-255	DMX mode
2	Projection rotation direction	0-99	Clockwise rotation
		100-199	No rotation
		200-255	Counter-clockwise rotation
3	Switch pattern running speed	0-255	0 is no rotation, 1-255 is slow-fast
4	Pattern rotation direction	0-99	Clockwise rotation
		100-199	No rotation
		200-255	Counter-clockwise rotation
5	Pattern rotation speed	0-255	0 is no rotation, 1-255 is slow-fast
6	Color selection	0-29	Red + green
		30-59	Red + green
		60-89	Red
		90-129	Green
		120-149	Red
		150-179	Green
		180-255	No output

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DMX lighting troubleshooting

If you have any problems with DMX lighting, consult this troubleshooting section to solve any difficulties with your product. If this troubleshooting section does not solve your problem, contact your dealer for more information and help.

This troubleshooting section contains the most frequent problems and is not a complete collection of possible faults, defects and solutions. The troubleshooting section applies for DMX controllers, DMX cabling and DMX lighting fixtures. It is possible that not all described problems, causes and solutions apply to your situation as product details may vary from product to product.

Problem	**Possible Cause**	**Solution**
The fixture does not activate itself	Blown fuse	Check the fuse compartiment for blown fuses and replace it if necessary.
	No power cable plugged in	Plug in the power supply to a matching power outlet
	Power switch is not in the ON position	Turn on the device by switching the ON/OFF switch to the ON position, if available
The fixture does not respond to DMX signals	Wrong DMX address	Set the DMX address to the right value
	DMX controller blackout function activated	Deactivate the blackout function of your DMX controller
	Faulty positioning of the DMX polarity switch on the controller	flip the polarity switch on your DMX controller
	No response or DMX activity signal LEDs active	Check your DMX cables for possible connection breaks and replace them if necessary.
The fixture does not respond to sound	Wrong working mode selected.	Check if the sound activated mode of the fixture is activated.
	Microphone sensitivity level is set too low	Increase the microphone sensitivity of the built-in microphone
	Speaker placed too far away or lack of bass	Place your lighting effect closer to your speakers (or vice versa) and/or increase low frequency volumes. The microphone will not be triggered with high pitched sounds.
The beam output is very low	Dirty/dusty optics	Clean the lens and/or other optics with a dry or damp cloth
	Dimmer is not set to full output	Set all dimmer levels to 100% on your DMX console
Sometimes the DMX signal is lost and/or some fixtures are flickering / behaving odd sometimes	Faulty/broken DMX cables	Check your DMX cables for possible connection breaks and replace them if necessary.
	Power cable interference on your	Avoid installing the DMX and

	DMX signal	(high) power cables parallel to each other.
	No DMX terminator	Apply a DMX terminator at the end of your DMX-chain
	Signal loss or distortion in DMX values	Apply a DMX booster in your DMX chain after 32 fixtures or less. After a maximum of 32 fixtures the DMX signal needs to be refreshed.
Moving parts are not functioning well, values do not match and/or rattling sounds are noticed	Faulty stepping motor positioning	Possible value loss of stepping motors. Activate the reset function, or unplug the power supply and plug it back in to activate the reset program. This will reset all values to the original 0-point.
The fixture does not respond fast enough to the set speed on my DMX controller	Moving parts can not keep up with the set speed	Decrease the chase speed of your DMX controller, as the stepping motors of your fixture need some time to move from one point to another.
The fixture does not respond to all DMX-channels	Wrong DMX channel mode	Check the DMX channel mode of the fixture. If the wrong value is set, change the channel mode to a different setting and try again.

Technical specifications

TYPE: ITA 350RG

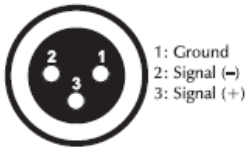
Laser diodes
Type ITA 350RG:
- 50mW green laser (wavelength: 532nm)
- 150mW red laser (wavelength: 650nm)

Tech specs:
- unique combination of a gobo wheel and a rotating grating lens, creating laser effects with a projection up to 70 degrees
- working modes: auto, sound-active, master/slave, DMX-512
- 8 built-in graphics on a rotating gobowheel
- hanging bracket, for use with a lighting stand or truss system
- built-in microphone with adjustable sensitivity
- DMX-control with 3-pin XLR connectors
- DMX-control: 6 channels
- Power supply: 100-250V AC, 50/60 Hz
- Power consumption: 15 Watt
- dimensions: 220 x 180 x 85 mm
- weight: 1.8 kg

Connectors and wiring schematics:

DMX-connections:

DMX-output
XLR mounting-socket:



DMX-input
XLR mounting-plug:

Electrical wiring:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	⏚